VIROLOGY

Volume 257, 1999

Academic Press

Copyright © 1999 by Academic Press

All Rights Reserved

No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopy, recording, or any information storage and retrieval system, without permission in writing from the Publisher. *Exceptions:* Explicit permission from Academic Press is not required to reproduce a maximum of two figures or tables from an Academic Press article in another scientific or research publication provided that the material has not been credited to another source and that full credit to the Academic Press article is given. In addition, authors of work contained herein need not obtain permission in the following cases only: (1) to use their original figures or tables in their future works; (2) to make copies of their papers for use in their classroom teaching; and (3) to include their papers as part of their dissertations.

The appearance of the code at the bottom of the first page of an article in this journal indicates the Publisher 's consent that copies of the article may be made for personal or internal use, or for the personal or internal use of specific clients. This consent is given on the condition, however, that the copier pay the stated per copy fee through the Copyright Clearance Center, Inc. (222 Rosewood Drive, Danvers, Massachusetts 01923), for copying beyond that permitted by Sections 107 or 108 of the U. S. Copyright Law. This consent does not extend to other kinds of copying, such as copying for general distribution, for advertising or promotional purposes, for creating new collective works, or for resale. Copy fees for pre-1999 articles are as shown on the article title pages; if no fee code appears on the title page, the copy fee is the same as for current articles.

0042-6822/99 $30.00

MADE IN THE UNITED STATES OF AMERICA

This journal is printed on acid-free paper.

Contents of Volume 257

Number 1, April 25, 1999

Minireview

Immunopathogenesis of Dengue Hemorrhagic Fever — Alan L. Rothman and Francis A. Ennis 1

Virus Replication/Gene Expression

Transcriptional Analysis of Human Herpesvirus-8 Open Reading Frames 71, 72, 73, K14, and 74 in a Primary Effusion Lymphoma Cell Line — Simon J. Talbot, Robin A. Weiss, Paul Kellam, and Chris Boshoff 84

Identification of a Human Immunodeficiency Virus Type 1 That Stably Uses $tRNA^{Lys1,2}$ Rather Than $tRNA^{Lys,3}$ for Initiation of Reverse Transcription — Sang-Moo Kang, Zhijun Zhang, and Casey D. Morrow 95

Characterization of Early Gene Transcripts of Molluscum Contagiosum Virus — Joachim J. Bugert, Claudia Lohmüller, and Gholamreza Darai 119

Phosphorylation of Nonstructural 5A Protein of Hepatitis C Virus: HCV Group-Specific Hyperphosphorylation — Masami Hirota, Shinya Satoh, Shin-ichi Asabe, Michinori Kohara, Kyoko Tsukiyama-Kohara, Nobuyuki Kato, Makoto Hijikata, and Kunitada Shimotohno 130

Channel Catfish Virus Gene 50 Encodes a Secreted, Mucin-like Glycoprotein — Nathalie Vanderheijden, Larry A. Hanson, Etienne Thiry, and Joseph A. Martial 220

Differentiation-Induced Changes in Promoter Usage for Transcripts Encoding the Human Papillomavirus Type 31 Replication Protein E1 — David J. Klumpp and Laimonis A. Laimins 239

Virus Structure and Assembly

In Vitro Assembly Properties of Wild-Type and Cyclophilin-Binding Defective Human Immunodeficiency Virus Capsid Proteins in the Presence and Absence of Cyclophilin A — Mira Grättinger, Heinz Hohenberg, Dennis Thomas, Thomas Wilk, Barbara Müller, and Hans-Georg Kräusslich 247

Cyclophilin A Incorporation Is Not Required for Human Immunodeficiency Virus Type 1 Particle Maturation and Does Not Destabilize the Mature Capsid — Klaus Wiegers, Gabriel Rutter, Ulrich Schubert, Mira Grättinger, and Hans-Georg Kräusslich 261

Virus–Cell Biology

Hyaluronan Synthesis in Virus PBCV-1-Infected Chlorella-like Green Algae — Michael V. Graves, Dwight E. Burbank, Robyn Roth, John Heuser, Paul L. DeAngelis, and James L. Van Etten 15

Two Domains within the Adenovirus Type 12 E1A Unique *Spacer* Have Disparate Effects on the Interaction of E1A with P105-Rb and the Transformation of Primary Mouse Cells — Heike Rumpf, Helmut Esche, and Hans-Christoph Kirch 45

Analysis of the Steps Involved in Dengue Virus Entry into Host Cells — Shan-Ling Hung, Pei-Lun Lee, Hsiao-Wang Chen, Li-Kuang Chen, Chuan-Liang Kao, and Chwan-Chuen King 156

HIV-1 Nef Plays an Essential Role in Two Independent Processes in CD4 Down-regulation: Dissociation of the CD4–$p56^{lck}$ Complex and Targeting of CD4 to Lysosomes — Young-Hoon Kim, Su Hwan Chang, Jeong Ho Kwon, and Sung S. Rhee 208

Role of the Leukocyte Function Antigen-1 Conformational State in the Process of Human Immunodeficiency Virus Type 1-Mediated Syncytium Formation and Virus Infection — Jean-François Fortin, Benoit Barbeau, Håkan Hedman, Erik Lundgren, and Michel J. Tremblay 228

Viral Pathogenesis and Immunity

Sites of Simian Foamy Virus Persistence in Naturally Infected African Green Monkeys: Latent Provirus Is Ubiquitous, Whereas Viral Replication Is Restricted to the Oral Mucosa — Valeria Falcone, Jörg Leupold, Jörn Clotten, Enikö Urbanyi, Ottmar Herchenröder, Wolfbernhardt Spatz, Benedict Volk, Norbert Böhm, Antonio Toniolo, Dieter Neumann-Haefelin, and Matthias Schweizer 7

Replication and Budding of Simian Immunodeficiency Virus in Polarized Epithelial Cells — Yung T. Huang, Christopher J. Miller, Viviana Wong, Hisashi Fujioka, John G. Nedrud, and Michael E. Lamm 24

Reovirus Type 3 Clone 9 Increases Interleukin-1α Level in the Brain of Neonatal, but Not Adult, Mice — Muriel Derrien and Bernard N. Fields 35

Identification of MaTu-MX Agent as a New Strain of Lymphocytic Choriomeningitis Virus (LCMV) and Serological Indication of Horizontal Spread of LCMV in Human Population — Lucia Reiserová, Milota Kaluzová, Štefan Kaluz, Antony C. Willis, Jan Závada, Eva Závodská, Zuzana Závadová, Fedor Čiampor, Jaromír Pastorek, and Silvia Pastoreková 73

Role of Interferon and Interferon Regulatory Factors in Early Protection against Venezuelan Equine Encephalitis Virus Infection — Franziska B. Grieder and Stefanie N. Vogel 106

The Acidic Region and Conserved Putative Protein Kinase C Phosphorylation Site in Nef Are Important for SIV Replication in Rhesus Macaques — Silke Carl, A. John Iafrate, Sabine M. Lang, Christiane Stahl-Hennig, Eva M. Kuhn, Dietmar Fuchs, Kerstin Mätz-Rensing, Peter ten Haaft, Jonathan L. Heeney, Jacek Skowronski, and Frank Kirchhoff 138

Resistance to Herpetic Stromal Keratitis in Immunized B-Cell-Deficient Mice — Massoud Daheshia, Shilpa Deshpande, Sangjun Chun, Nelly A. Kuklin, and Barry T. Rouse . . . 168

Antigenic Heterogeneity of the Hepatitis C Virus NS4 Protein as Modeled with Synthetic Peptides — J. C. Chang, C. Seidel, B. Ofenloch, D. L. Jue, H. A. Fields, and Y. E. Khudyakov 177

Bovine Herpesvirus 1-Induced Apoptotic Cell Death: Role of Glycoprotein D — Emmanuel Hanon, Günther Keil, Sylvia van Drunen Littel-van den Hurk, Philip Griebel, Alain Vanderplasschen, Frans A. M. Rijsewijk, Lorne Babiuk, and Paul-Pierre Pastoret 191

Induction of CD95 (Fas) and Apoptosis in Respiratory Epithelial Cell Cultures Following Respiratory Syncytial Virus Infection — D. R. O'Donnell, L. Milligan, and J. M. Stark 198

Gene Therapy/Viral Vectors

Packaging of AeDNV–GFP Transducing Virus by Expression of Densovirus Structural Proteins from a Sindbis Virus Expression System — Tanya M. Allen-Miura, Boris N. Afanasiev, Kenneth E. Olson, Barry J. Beaty, and Jonathan O. Carlson 54

Transduction of *Aedes aegypti* Mosquitoes with Vectors Derived from *Aedes* Densovirus — Boris N. Afanasiev, Todd W. Ward, Barry J. Beaty, and Jonathan O. Carlson 62

Author Index for Volume 257, Number 1 275

Number 2, May 10, 1999

Minireview

Multiple Control Levels of Cell Proliferation by Human T-Cell Leukemia Virus Type 1 Tax Protein — Jean-Michel Mesnard and Christian Devaux 277

Rapid Communications

The Cellular Kinase Binding Motifs (PxxP and RR) in Human Immunodeficiency Virus Type 1 Nef Protein Are Dispensable for Producer-Cell-Dependent Enhancement of Viral Entry — Kenzo Tokunaga, Kazuyoshi Ikuta, Akio Adachi, Michiyuki Matsuda, Takeshi Kurata, and Asato Kojima 285

Identification of Determinants of Interaction between CXCR4 and gp120 of a Dual-tropic HIV-1_{DH12} Isolate — Myung K. Lee, Jennifer Heaton, and Michael W. Cho 290

Identification of Human and Mouse Homologs of the MC51L–53L–54L Family of Secreted Glycoproteins Encoded by the Molluscum Contagiosum Poxvirus — Yan Xiang and Bernard Moss 297

Virus Replication/Gene Expression

Infectious Virus in Transgenic Plants Inoculated with a Nonviable, P1-Proteinase Defective Mutant of a Potyvirus — Manuel Moreno, Bas F. Brandwagt, John G. Shaw, and Emilio Rodríguez-Cerezo 322

Self-Interaction of the Herpes Simplex Virus Type 1 Regulatory Protein ICP27 — Yan Zhi, Kathryn S. Sciabica, and Rozanne M. Sandri-Goldin 341

Limitation of Tat-Associated Transcriptional Processivity in HIV-Infected PBMC — Melanie Adams, Christine Wong, Dan Wang, and Joseph Romeo 397

Activation of Bcl-2 Promoter-Directed Gene Expression by the Human Immunodeficiency Virus Type-1 Tat Protein — Zhongde Wang, Gilbert F. Morris, John C. Reed, Gloria D. Kelly, and Cindy B. Morris 502

Vaccinia Virus DNA Polymerase Promotes DNA Pairing and Strand-Transfer Reactions — David O. Willer, Melissa J. Mann, Wandong Zhang, and David H. Evans 511

Replication of African Swine Fever Virus DNA in Infected Cells — Gema Rojo, Regina García-Beato, Eladio Viñuela, María L. Salas, and José Salas 524

Virus Structure and Assembly

The Isolation of the Ectodomain of the Alphavirus E1 Protein as a Soluble Hemagglutinin and Its Crystallization — Gerd Wengler, Gisela Wengler, and Felix A. Rey .. 472

Virus–Cell Biology

The Cellular Kinase Binding Motifs (PxxP and RR) in Human Immunodeficiency Virus Type 1 Nef Protein Are Dispensable for Producer-Cell-Dependent Enhancement of Viral Entry — Kenzo Tokunaga, Kazuyoshi Ikuta, Akio Adachi, Michiyuki Matsuda, Takeshi Kurata, and Asato Kojima 285

Activation of the Interferon-Inducible (2′-5′) Oligoadenylate Synthetase by the Epstein–Barr Virus RNA, EBER-1 — Tyson V. Sharp, Daniel A. Raine, Dirk R. Gewert, Bhavesh Joshi, Rosemary Jagus, and Michael J. Clemens 303

Hepatitis C Virus Core Protein Interacts with a Human DEAD Box Protein DDX3 — Ania M. Owsianka and Arvind H. Patel 330

A 110-kDa Nuclear Shuttle Protein, Nucleolin, Specifically Binds to Adeno-Associated Virus Type 2 (AAV-2) Capsid — Jianming Qiu and Kevin E. Brown 373

HPV16 E6 Oncoprotein Inhibits Apoptosis Induced during Serum–Calcium Differentiation of Foreskin Human Keratinocytes — Jacklin Alfandari, Sharon Shnitman Magal, Anna Jackman, Richard Schlegel, Pinhas Gonen, and Levana Sherman 383

Membrane Fusion by Surrogate Receptor-Bound Influenza Haemagglutinin — B. M. G. Millar, L. J. Calder, J. J. Skehel, and D. C. Wiley 415

Intracellular Transport and Maturation Pathway of Human Herpesvirus 6 — Maria Rosaria Torrisi, Massimo Gentile, Giorgia Cardinali, Mara Cirone, Claudia Zompetta, Lavinia V. Lotti, Luigi Frati, and Alberto Faggioni 460

Activation of the N-*myc*2 Oncogene by Woodchuck Hepatitis Virus Integration in the Linked Downstream *b3n* Locus in Woodchuck Hepatocellular Carcinoma — Roberto Bruni, Emilio D'Ugo, Roberto Giuseppetti, Claudio Argentini, and Maria Rapicetta 483

Functional Complementation of the Envelope Hypervariable V3 Loop of Human Immunodeficiency Virus Type 1 Subtype B by the Subtype E V3 Loop — Hironori Sato, Kayoko Kato, and Yutaka Takebe . . . 491

Viral Pathogenesis and Immunity

Identification of Determinants of Interaction between CXCR4 and gp120 of a Dual-tropic HIV-1_{DH12} Isolate — Myung K. Lee, Jennifer Heaton, and Michael W. Cho 290

Identification of Human and Mouse Homologs of the MC51L–53L–54L Family of Secreted Glycoproteins Encoded by the Molluscum Contagiosum Poxvirus — Yan Xiang and Bernard Moss 297

HTLV-I-Infected T Cells Evade the Antiproliferative Action of IFN-β — Derek Smith, Guy J. Buckle, David A. Hafler, David A. Frank, and Per Höllsberg 314

Protection of Chickens against Very Virulent Infectious Bursal Disease Virus (IBDV) and Marek's Disease Virus (MDV) with a Recombinant MDV Expressing IBDV VP2 — Kenji Tsukamoto, Chiaki Kojima, Yoko Komori, Nobuhiko Tanimura, Masaji Mase, and Shigeo Yamaguchi 352

Immunogenicity, Genetic Stability, and Protective Efficacy of a Recombinant, Chimeric Yellow Fever-Japanese Encephalitis Virus (ChimeriVax-JE) as a Live, Attenuated Vaccine Candidate against Japanese Encephalitis — F. Guirakhoo, Z.-X. Zhang, T. J. Chambers, S. Delagrave, J. Arroyo, A. D. T. Barrett, and T. P. Monath 363

Studies on Antibody Responses Following Neonatal Immunization with Influenza Hemagglutinin DNA or Protein — Tamera M. Pertmer and Harriet L. Robinson 406

Rotavirus-Specific Cytotoxic T Lymphocytes Recognize Overlapping Epitopes in the Amino-Terminal Region of the VP7 Glycoprotein — Javier Buesa, Jose V. Raga, Javier Colomina, Candida O. de Souza, Carlos Muñoz, and Maria Teresa Gil 424

Engineering of Noninfectious HIV-1-like Particles Containing Mutant gp41 Glycoproteins as Vaccine Candidates That Allow Vaccinees to Be Distinguished from HIV-1 Infectees — Benjamin Rovinski, Gregory A. Dekaban, Shi-Xian Cao, Fei-Long Yao, Roy Persson, Thomas J. Matthews, and Michel H. Klein 438

Antigenic Profile of African Horse Sickness Virus Serotype 4 VP5 and Identification of a Neutralizing Epitope Shared with Bluetongue Virus and Epizootic Hemorrhagic Disease Virus — Jorge L. Martínez-Torrecuadrada, Jan P. M. Langeveld, Angel Venteo, Antonio Sanz, Kristian Dalsgaard, William D. O. Hamilton, Rob H. Meloen, and J. Ignacio Casal 449

Author Index for Volume 257 537